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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

TITLE: IMPROVED SAUSAGE PRODUCT AND METHOD FOR
PRODUCING SAUSAGE

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BACKGROUND OF THE INVENTION

1. Field of The Invention

Applicant's invention generally relates to an improved method for preparing a sausage product, and more particularly it relates to a method for making Chorizo. Chorizo sausage is a highly seasoned, coarsely ground pork or beef sausage flavored with garlic, chili powder and other spices. It is widely used in both Mexican and Spanish cookery.

The present invention, in its most preferred form, relates to a sausage production method, wherein the sausage is naturally smoked, and wherein the combination of particularly lean meat, powdered vinegar, and food-grade acid allows the sausage to remain intact rather than falling apart during the curing or smoking process.

2. Background Information

Traditionally, sausages are prepared by injecting or inserting sausage paste or meat into a prepared sausage casing and letting the meat dry or cure by smoking the product. Such casings are usually made from sheep or pig intestines, regenerated cellulose, or regenerated collagen.

It is often desirable to naturally smoke a sausage product to impart a smokey flavor and color into the product. While

1 natural smoke provides a better smoke flavor and color to
2 the sausage product, the process of naturally smoking
3 Chorizo sausage can be difficult. That is, Chorizo sausage
4 often falls apart during the smoking step of the sausage
5 making process. The proportions of meat to fat, the meat's
6 cut, and seasoning variations all may adversely affect the
7 meat's ability to stay together during the smoking process.
8 This problem results in a great inefficiency in the sausage
9 making process both with respect to economics and the
10 environment. Commonly, entire batches of sausage are lost
11 due to the meat falling apart within the casing during the
12 smoking process. As such, entire batches of sausage must be
13 discarded and the process restarted from scratch. As
14 sausage making is a time consuming process, a large sum of
15 money is lost in paying workers to do the same job more than
16 once. Moreover, the discarded materials may not be used
17 again so they are often thrown out, unnecessarily adding to
18 an ever-increasing environmental problem.

19 Accordingly, a need exists for an improved method for
20 producing sausage whereby the sausage will maintain its
21 structural integrity during the smoking process and where
22 the sausage making process is both efficient with respect to
23 time and production costs and where the process does not
24 create unnecessary production waste and where the sausage

1 will maintain all of the benefits of naturally smoked
2 sausage.

3

4 SUMMARY OF THE INVENTION

5 In view of the foregoing, it is an object of the
6 present invention to provide a method of sausage production
7 where the sausage maintains its structural integrity during
8 the smoking process

9 It is another object of the present invention to provide
10 a cost effective method of sausage production

11 It is another object of the present invention to provide
12 a time effective method of sausage production

13 It is another object of the present invention to provide
14 a method of sausage production that reduces adverse effects
15 on the environment through the elimination of wasted
16 production materials.

17 It is another object of the present invention to
18 provide a sausage product where the sausage maintains its
19 structural integrity during the smoking process

20 It is another object of the present invention to provide
21 a sausage product that is cost effective to produce

22 It is another object of the present invention to provide
23 a sausage product that is time effective to produce

24 It is yet another object of the present invention to

1 provide a sausage product that reduces adverse effects on the
2 environment through the elimination of wasted production
3 materials.

4 In satisfaction of these and related objectives,
5 Applicant's invention permits its practitioner to incorporate
6 a novel combination of ingredients and techniques when making
7 sausage. This combination ensures that the structural
8 integrity of the sausage will be maintained during the
9 smoking process. As will be discussed in the specification
10 to follow, practice of the invention involves preparing the
11 sausage meat or paste mixture with particularly lean meat.
12 Traditional Chorizo sausage is typically prepared with
13 approximately a one-to-one meat to fat ratio. However, the
14 present invention incorporates a meat or paste mixture with
15 a 5-45 percent fat content, preferably 25 percent. In
16 combination with this lean meat or paste mixture, the
17 process of the present invention substitutes powdered
18 vinegar in lieu of the generally accepted liquid form of
19 vinegar. Use of powdered vinegar substantially increases
20 the tendency of the meat or paste to remain intact while
21 maintaining the flavor and color associated with traditional
22 Chorizo. Further, the process of the present invention
23 incorporates use of encapsulated food-grade acid to further
24 ensure the structural integrity of the sausage during the

1 smoking process. Preferably, the process of the present
2 invention incorporates the use of encapsulated citric acid.
3 This described combination virtually ensures that the
4 sausage meat or paste will remain intact during the smoking
5 process.

6 Use of the process of the present invention further
7 provides economic and environmental advantages. That is,
8 the process of the present invention is cost effective and
9 time effective. The combination of ingredients and
10 techniques that make this preparation method novel has a
11 nominal impact on both preparation time and preparation
12 costs. As such, production costs can be reduced. Further,
13 the process of the present invention prevents wasted
14 production material associated with sausage that has lost
15 its structural integrity. As such, employment of the
16 present invention will reduce some of the adverse
17 environmental impact associated with traditional sausage
18 making.

19

20 BRIEF DESCRIPTION OF THE DRAWINGS

21 Applicant's invention may be further understood from a
22 description of the accompanying drawings wherein, unless
23 otherwise specified, like reference numbers are intended to
24 depict like components in the various views.

1 Fig. 1 is a diagram view of the preferred embodiment of
2 meat emulsion 10 containing lean meat mixture 12, powdered
3 vinegar 14, and encapsulated food-grade acid 16.

4 Fig. 2 is a standard sausage-making machine of the
5 preferred embodiment as known in the art.

6
7 DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

8 Referring to Figure 1, a meat emulsion of the process of
9 the present invention is generally referred to by numeral 10.
10 Meat emulsion 10 is formed by combination of a lean meat
11 mixture 12, powdered vinegar 14, and an encapsulated food-
12 grade acid 16. Traditional Chorizo sausage is made from a
13 combination of pork or beef and lard, typically with a meat-
14 to-fat ratio of one to one. This type of meat mixture often
15 falls apart during the curing process, particularly when the
16 meat mixture is naturally smoked. In the preferred
17 embodiment, lean meat mixture 12 is comprised of a relatively
18 lean (fat content between 5 and 45 percent, preferably 25
19 percent) combination of pork or beef and animal fat. Using
20 this relatively lean combination of meat and fat has been
21 found, in combination with other soon to be described
22 ingredients, to substantially increase the ability of meat
23 emulsion 10 to remain intact during the curing process.
24 However, one could easily imagine a meat mixture comprised of

1 a combination of almost any type of meat and lard that would
2 be acceptable for sausage making as virtually any meat
3 mixture could be improved by the process of the present
4 invention.

5 In the preferred embodiment, powdered vinegar 14 is used
6 in combination in meat emulsion 10. Powdered vinegar is
7 preferred because it substantially reduces the moisture
8 content of meat emulsion 10 and greatly improves the ability
9 of meat emulsion 10 to remain intact during the curing
10 process. However, use of powdered vinegar 14 does not
11 adversely affect the flavor, color, or texture of the
12 resultant sausage product.

13 Use of a food grade acid is also used in combination in
14 meat emulsion 10. In the preferred embodiment, encapsulated
15 citric acid is used as this has produced the best results.
16 Use of food-grade acid in the sausage making process is known
17 in the art. However, when an encapsulated form of food-grade
18 acid is used in the process of present invention, the results
19 are greatly improved. That is, encapsulated food-grade acid,
20 in combination with the above mentioned ingredients, produce
21 a meat emulsion that virtually never falls apart during the
22 curing process. Such result is not achieved by any known
23 combination in the art.

24 Meat emulsion 10 has been described only with reference

1 to the combination of lean meat mixture 12, powdered vinegar
2 14, and encapsulated food-grade acid 16. However, other
3 ingredients certainly may be added according to desired,
4 taste, texture, etc without reducing the effectiveness of the
5 claimed invention.

6 Any particular mechanical process of making sausage does
7 not limit the process of the present invention. Rather, the
8 critical aspect of this sausage making process is the
9 combination of the constituent ingredients that ensure the
10 structural integrity of meat emulsion 10 during the curing
11 process. However, an example of the process of the present
12 invention used with a traditional or accepted mechanical
13 method of sausage production is as follows.

14 The ingredients of meat emulsion 10 may be combined in
15 any standard fashion according to accepted practices in the
16 art, within any standard sausage-making machine (an example
17 to be described) used in the art. An example would be 100
18 parts meat mixture, five parts powdered vinegar, two parts
19 encapsulated food-grade acid, and a combination of other
20 spices such as garlic and chili powder according to flavor.
21 Although only one specific recipe has been provided for
22 demonstration when used with the process of the present
23 invention, modifications of other such recipes will become
24 apparent to those skilled in the art in light of the present

1 invention.

2 With reference to FIG. 2, a conventional sausage making
3 machine 20 has a frame 21, a pump 22 connected to a source
4 of emulsion (not shown), a slidable stuffing tube 24
5 surrounded by sausage casing 25, a twisting mechanism 26, a
6 linking mechanism 28, a discharge horn 30, and a conveyor
7 32.

8 Meat emulsion 10 is pumped through tube 24 by pump 22
9 shown in FIG. 2. Meat emulsion 10 is encased in casing 25,
10 which is placed on the outer surface of the tube 24 and
11 extends to the discharge end 24A of tube 24. Stuffing tube
12 24 moves onto twister 26 while emulsion is conventionally
13 being pumped into the interior of the casing 25 through tube
14 24. Casing 25 is formed into a linked product by the
15 cooperative activity of twisting mechanism 26 and linking
16 mechanism 28. Twisting mechanism 26 twists the elongated
17 sausage strand filled within casing 25. Linking mechanism
18 26 divides the strand into a plurality of sausage links
19 thereby creating an elongated linked encased sausage strand.
20 The linked product is delivered through horn 30 to conveyor
21 32.

22 The elongated linked encased sausage strand is then
23 sent to curing mechanism 34. In the preferred embodiment,
24 curing mechanism 34 is the application of natural smoke as

1 known in the art. However, the present invention is also
2 useful when used with other curing mechanisms as will be
3 apparent to those skilled in the art.

4 Although the invention has been described with reference
5 to specific embodiments, this description is not meant to be
6 construed in a limited sense. Various modifications of the
7 disclosed embodiments, as well as alternative embodiments of
8 the inventions will become apparent to persons skilled in the
9 art upon the reference to the description of the invention.
10 It is, therefore, contemplated that the appended claims will
11 cover such modifications that fall within the scope of the
12 invention.

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